

A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab advances the Department's strategic goals in the areas of energy, environment, defense and science.

■ ENERGY – Lab Helps Air Force Lasso the Wind

The INEEL is helping install, test and integrate two new 900-kilowatt wind turbines into the power grid at a U.S. Air Force base that tracks NASA's down-range space launches from Ascension Island. These turbines, which supplement four existing small wind turbines, increase the renewable energy electric capacity to 2.7 megawatts, and further reduce air emissions and dependence on diesel generators. The turbines will save an additional 650,000 gallons of diesel fuel per year and will help power the island's desalination plant, providing 25 million gallons of fresh drinking water each year with "green" wind energy.

■ ENVIRONMENT – Consortium Forms to Study the Subsurface

An agreement between the U.S. Department of Energy's INEEL and Lawrence Berkeley National Laboratory in California is expected to provide answers to some of the most critical issues facing those who study subsurface science. The two national laboratories have joined to create the Consortium for Research on the Earth's Subsurface (CORES) to help provide solutions to issues as diverse as aquifer protection, hazardous material containment, agricultural productivity, and energy and mineral resources use. "The payoff for the CORES project is huge," said INEEL Subsurface Science Initiative Director Russ Hertzog. "It has far-reaching effects in our efforts to provide a healthy environment for our society and protect groundwater nationally and internationally. We believe that's a worthwhile endeavor."

■ DEFENSE – Researchers Design Improved Concealed Weapons Detector

National Security engineers have designed a concealed weapons detector that is sophisticated enough to discriminate between threat and non-threatening items such as keys and coins – and sensitive enough to identify items of concern as small as box cutters or razor blades. Idaho laboratory researchers will now be working with scientists from the Institute of Radio-Engineering and Electronics of the Russian Academy of Science to advance the technology's capabilities even further. The Russian institute is well known for its fundamental research in magnetics and magnetic induction imaging, and will focus on tailoring algorithms its scientists originally developed for medical imaging for the key tasks of weapons/object localization and recognition.

■ SCIENCE – INEEL Engineer Recognized for Contribution to Science

One of the leading engineers specializing in researching, designing and developing effective off-gas and air pollution treatment processes at the INEEL has received the 2004 Distinguished Scientist/Engineer Award from the Idaho Academy of Science. The award was presented to INEEL engineer Richard Boardman during the Academy's 46th annual meeting and symposium banquet held recently on the campus of Idaho State University. In announcing its selection of Boardman, the Academy cited his exceptional leadership and innovative applications of science and engineering principles to develop and implement practical science-based solutions to unique environmental discharge problems of national importance and impact.

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